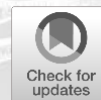*Original Research*

# Depression among Indonesian citizens in the post-COVID-19 pandemic era: A descriptive survey

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## Abstract

**Background:** Depression is a common medical illness that affects a million of individuals around the world. The prevalence of depression is increased during the COVID-19 pandemic, but little is known if the depression persists in the post-pandemic.

**Objective:** This study aimed to describe the current status of depression among Indonesian citizens in urban areas.

**Methods:** A quantitative descriptive survey was used involving 105 Indonesian citizens conveniently selected from urban areas in Jakarta, Bogor, Tangerang, Depok, and Bekasi (JABODETABEK). Patient Health Questionnaire-9 (PHQ-9) was used for online data collection using Google Forms from 6 September 2022 to 12 September 2022. Descriptive statistics were used for data analysis.

**Results:** Of the participants, 74.3% had no depression, and 25.7% had mild depression. Those having mild depression were mainly females, those aged 20-30 years, and those working in the health sector.

**Conclusion:** The study may provide a piece of basic information for healthcare professionals to provide mental health interventions, especially to reduce

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depression in the communities. However, further studies are needed to confirm the results.

## Keywords

COVID-19; mental health; Indonesia; patient health questionnaire

## Background

Depression is a prevalent mental illness. Depression affects 280 million individuals worldwide, and it can cause impairment and increase the burden of disease globally (World Health Organization, 2021). Affected individuals may suffer greatly and become dysfunctional at work, school, and home. In the worst cases, it can lead to suicide (World Health Organization, 2021).

In Indonesia, more than 19 million people over the age of 15 suffer from mental and emotional disorders, and more than 12 million people over the age of 15 experience depression (Ministry of Health Indonesia, 2018). And COVID-19 pandemic even makes it worst. Ministry of Health said that mental disorders and depression rates have increased to 6.5 percent nationally. The causes are mostly social limitations due to staying at home for too long and losing their jobs (Gunawan et al., 2020; Putra, 2021).

In a 2020 survey conducted by the Association of Indonesian Mental Medicine Specialists or called *Perhimpunan Dokter Spesialis Kedokteran Jiwa Indonesia* (PDSKJI), 63 percent of respondents experienced anxiety, and 66 percent of respondents experienced depression due to COVID-19 pandemic. Meanwhile, as many as 80 percent of respondents have symptoms of post-traumatic psychological stress due to experiencing or witnessing unpleasant events related to COVID-19 (Putra, 2021). Therefore, paying attention to mental health issues is a necessity.

However, currently, the world has made a transition from pandemic to endemic status, and some have even called it a post-pandemic, where almost everyone is trying to adapt to the new normal (Gunawan, 2022). Those who lost jobs earlier may get new ones and survive. But the question is, what is the current state of their depression?

As we know, depression is influenced by many factors, such as social, psychological, biological, age, gender, marital status, environment, etc. (Gunawan & Huang, 2022; World Health Organization, 2021). For instance, in the environmental factor, in Indonesia, exposure to severe air pollution has profound and long-lasting effects on mental health. Furthermore, exposure to pollution increases the risk of clinical depression and the intensity of depressive symptoms in both sexes (Kim et al., 2020). In other words, although the world's status

moved from pandemic to endemic, the factors that contributed to depression persist. Thus, further exploration is needed.

In this study, we aim to describe the current status of depression among Indonesian citizens in urban areas. The findings will inform healthcare professionals to take necessary interventions to reduce depression in societies.

## Methods

### Study Design

This survey employed a quantitative descriptive design to determine the depression level among Indonesian citizens after the COVID-19 pandemic.

### Participants

There were 105 Indonesian citizens included in this study using convenience sampling in urban areas, such as Jakarta, Bogor, Tangerang, Depok, and Bekasi (JABODETABEK).

### Instruments

This study employed a questionnaire from the Patient Health Questionnaire-9 (PHQ-9) (Kroenke, 2021) to measure the presence and severity of depression, which is also available for the Indonesian version (Bestari, 2021). Pfizer owns the copyright of the PHQ-9 and allows it to be accessed by public for free (Pfizer, 2022).

The questionnaire consists of nine items of questions: "1) little interest or pleasure in doing things? 2) feeling down, depressed, or hopeless? 3) trouble falling or staying asleep, or sleeping too much? 4) feeling tired or having little energy? 5) poor appetite or overeating? 6) feeling bad about yourself – or that you are a failure or have let yourself or your family down? 7) trouble concentrating on things, such as reading the newspaper or watching television? 8) moving or speaking so slowly that other people could have noticed? Or so fidgety or restless that you have been moving a lot more than usual? 9) thought that you would be better off dead, or thought of hurting yourself in some way?"

The questionnaire used a 3-point rating scale: 0 (not at all), 1 (several days), 2 (more than half the days), and 3 (nearly every day). A score $\leq$ 4 indicates minimal depression, which may not require treatment. A score of 5-9 indicates mild depression, which needs psychoeducational therapy. A score of 10-14 indicates moderate depression, which needs a treatment plan, counseling, and pharmacotherapy. A score of 15-19 shows moderately severe depression, which requires active treatment with antidepressants and psychotherapy. A score $\geq$ 20 indicates severe depression, which needs immediate initiation of

pharmacotherapy and, if severe impairment or poor response to therapy, expedited referral to a mental health specialist for psychotherapy and collaborative management (Kroenke et al., 2003).

## Data Collection

The researchers distributed the survey questionnaire using Google Forms to the surrounding urban areas (Jakarta, Bogor, Depok, Tangerang, and Bekasi). Data were collected for one week (6 September 2022 to 12 September 2022). In addition, the Google Form link of the questionnaire was sent to the WhatsApp groups.

## Data Analysis

The data were analyzed using univariate statistics in the form of frequency and percentage.

## Ethical Considerations

The study was ethically approved by Universitas Indonesia Maju (UIMA) with reference code: 1986/Sket/Ka-Dept/RE/UIMA/IX/2022. Informed consent was included in the online questionnaire using Google form in the first statement of the home page. Each respondent was required to click the option "agree" for informed consent before they continued filling in the questions.

# Results

Of the participants, 78 citizens (74.3%) had no depression, while 27 citiziens (25.7%) had mild depression, indicating that they needed psychoeducational therapy. Among nine items of the patient health questionnaire-9, 49 people (46.7%) selected item 2 - "feeling down, depressed or hopeless?" for several days (Table 1).

Table 2 presents the depression level according to socio-demographic characteristics. Based on sex, females experienced mild depression more than males. Surprisingly, the age group 20-30 had the highest mild depression compared to age groups 31-40 and 41-50. In terms of occupation, those who worked in the health sector experienced mild depression more than those in other occupational sectors. Interestingly, there was no mild depression among the citizens working in the governmental sectors. Last, based on the urban areas, it seems all JABODETABEK areas had a similarly low average of mild depression. The highest mild depression was in the area of Bekasi, and the lowest was in the area of Tangerang.

Table 1 | Frequency distribution of Patient Health Questionnaire-9 (PHQ-9) (*N* = 105)

| No | Items | 0 | | 1 | | 2 | | 3 | |
|----|-------|---|---|---|---|---|---|---|---|
| | | *f* | % | *f* | % | *f* | % | *f* | % |
| 1 | Little interest or pleasure in doing things? | 72 | 68.6 | 32 | 30.5 | 1 | 0.9 | 0 | 0 |
| 2 | Felling down, depressed or hopeless? | 56 | 53.3 | 49 | 46.7 | 0 | 0 | 0 | 0 |
| 3 | Trouble falling or staying asleep, or sleeping too much? | 92 | 87.6 | 13 | 12.4 | 0 | 0 | 0 | 0 |
| 4 | Feeling tired or having little energy? | 81 | 77.1 | 24 | 22.9 | 0 | 0 | 0 | 0 |
| 5 | Poor appetite or overeating? | 73 | 69.5 | 32 | 30.5 | 0 | 0 | 0 | 0 |
| 6 | Feeling bad about yourself or that you are a failure or have let yourself or your family down | 73 | 69.5 | 32 | 30.5 | 0 | 0 | 0 | 0 |
| 7 | Trouble concentrating on things, such as reading the newspaper or watching television? | 58 | 55.2 | 47 | 44.8 | 0 | 0 | 0 | 0 |
| 8 | Moving or speaking so slowly that other people could have noticed? Or so fidgety or restless that you have been moving a lot more than usual? | 70 | 66.7 | 35 | 33.3 | 0 | 0 | 0 | 0 |
| 9 | Thoughts that you would be better off dead, or thoughts of hurting yourself in some way? | 78 | 74.3 | 27 | 25.7 | 0 | | 0 | 0 |
| No depression: 78 (74.3%) | | | | | | | | | |
| Mild depression: 27 (25.7%) | | | | | | | | | |

Table 2 Depression level according to socio-demographic characteristics (*N* = 105)

| Socio-demographic characteristics | Depression Level | | Total |
|---|---|---|---|
| | No Depression *f* | Mild Depression *f* | *f* |
| **Sex** | | | |
| Male | 27 | 9 | 36 |
| Female | 51 | 18 | 69 |
| Total | 78 | 27 | 105 |
| **Age (years)** | | | |
| 20-30 | 27 | 16 | 43 |
| 31-40 | 26 | 5 | 31 |
| 41-50 | 25 | 6 | 31 |
| Total | 78 | 27 | 105 |
| **Occupation** | | | |
| Educational sector | 8 | 5 | 13 |
| Entrepreneur sector | 16 | 4 | 20 |
| Government sector | 6 | 0 | 6 |
| Health sector | 46 | 12 | 58 |
| State Owned enterprise sector | 1 | 3 | 4 |
| Tourism services sector | 1 | 3 | 4 |
| Total | 78 | 27 | 105 |
| **Area** | | | |
| Jakarta | 26 | 6 | 32 |
| Bogor | 14 | 5 | 19 |
| Depok | 13 | 6 | 19 |
| Bekasi | 13 | 7 | 20 |
| Tangerang | 12 | 3 | 15 |
| Total | 78 | 27 | 105 |

## Discussion

The aim of this study was to describe the current state of the depression level among Indonesian citizens post-pandemic, particularly in urban areas. The results indicated a low level of depression, explaining that the lives of people in the surrounding Jakarta, Bogor, Tangerang, Depok, and Bekasi areas were mentally healthy. This makes it easier for people to improve their quality of life and survive in the big city. However, the study result was in contrast with previous studies (Jaya & Wulandari, 2022; Purba & Fitriana, 2022). In addition, Pelgrims et al. (2021) revealed that an urban environment with air pollution was positively associated with higher odds of depressive disorders, but no associations of noise, surrounding green at different scales, and building morphology with depression. Therefore, does it indicate that air pollution in Indonesian urban areas is better? Further investigation is needed to answer this question.

It is interesting to note also females experienced more mild depression than males. This finding aligns with previous research that females are more likely to report mild depression than males (Shi et al., 2021; Villarroel & Terlizzi, 2020; World Health Organization, 2021). However, the causes of depression in women can vary. In addition to biological and psychological factors, significant life events like pregnancy and childbirth can also contribute to women developing depression (Jewell, 2017). Therefore, this gender difference somehow represents health disparity.

Surprisingly, the age group 20-30 had the highest mild depression compared to older groups. This is in line with the results of the National Health Interview Survey that adults aged 18–29 were the highest group who experienced any symptoms of depression (Villarroel & Terlizzi, 2020). It is also similar to the National Institute of Mental Health (2022) said that ages 18 to 25 had the highest rate of adults with major depressive episodes.

In addition, those who worked in the health sector experienced mild depression more than those in other occupational sectors. This could still be the impact of the pandemic, as we know that COVID-19 has had a negative emotional effect on people, particularly healthcare professionals, as a high-risk group of workers (Tosepu et al., 2021). The anxiety of exposure to COVID-19 cases, the possibility of contracting the disease while caring for patients, the separation from family and loved ones, and the intense workload during the epidemic all have a significant impact on the mental health of healthcare professionals (Rezaei et al., 2022; Salari et al., 2020). And this impact may persist, often called post-pandemic depression or stress disorder (Scagliusi, 2021). Its symptoms may vary, including high anxiety, low motivation, feeling miserable,

poor sleep, changes in appetite, numbness, irritation, negative thinking, social withdrawal, sentiments of battling to cope, and "I can't be bothered with anything" (Scagliusi, 2021). In addition, Putra (2021) emphasized that many people have symptoms of post-traumatic psychological stress due to experiencing or witnessing unpleasant events related to COVID-19.

## Limitations and Recommendations for Future Studies

The design of the study was only descriptive. Thus, lack of explanation in terms of correlation, comparison, and causal effect. The sample size was also limited, that affected generalization of the study results. Further studies with bigger samples and advanced methods are recommended for deeper analysis and conclusion. Comparison between societies in urban and rural areas is also needed.

## Implications of this Study

The results of this study might be considered basis data for the next studies and input for designing interventions to cope with depression among citizens, particularly in Indonesia. The lesson we can learn is that, although the world is going toward post-pandemic, recovery may take years. Those who were affected during the pandemic may not be directly moving on. Their mental health needs careful treatment in order to cope with life pressures, perform well, study, work hard, and contribute to the community.

# Conclusion

Although the majority of Indonesian citizens had no depression, 25.7% had mild depression, which cannot be overlooked. Mild depression, according to the Patient Health Questionnaire-9, indicated that they need psychoeducational therapy. Based on socio-demographic characteristics, females and those aged 20-30 years, and those working in the health sector experienced mild depression more than males, those older than 30, and those in other occupational sectors. The study results may provide basic information for mental health intervention. Further studies are necessary to confirm the findings.

## Authors' Contributions
All authors contributed equally to this study.

## Authors' Biographies

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## Data Availability Statement
All data generated or analyzed during this study are included in this published article.

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